The system components 1, 2, and 3 include respective memories 11, 12, and 13 to store component-specific data. The component-specific data stored in the memories 11, 12, and 13 is data representing, e.g., the spatial coordinates of the respective system components 1, 2, or 3.[2]

Upon system startup, the system components 1, 2, and 3 each transmit a telegram, which contains the component-specific data of the memories 11, 12, and 13 (i.e., the spatial coordinates of the system components, for example), to the configuration unit 4 via the bus or communications channel 5.[3]

The configuration unit 4 generates a physical address for each system component by means of which the respective system component can be addressed on the bus 5.[4]

Independent claim 1 is directed to a distributed control system, which includes, among other things, system components having respective memories to store component-specific data that include spatial coordinates of respective positions of the system components; a configuration unit; and a communications channel. Therein, as recited in claim 1, the system components are configured to transmit the respective positions to the configuration unit; and the configuration unit is configured to assign and transmit unique physical addresses on the communications channel to the system components whose respective positions were previously received by the configuration unit.

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[2] See application text, page 8, ln. 8-11

[3] See application text, page 9, ln. 6-9

[4] See application text, page 10, ln. 7-9

Fig. 1 of the Lee reference shows an automation system that is utilized in a conventional TFT-LCD assembly line. The automation system includes a plurality of machines 30a-30n that process a plurality of subjects such as glass, wafer, etc. stored in a work assembly like cassette 40. The machines 30a-30n send job result data on the subjects to corresponding machine servers 20a-20n.[5]

For example, the first machine 30a can be a tester, and the second machine 30b can be a repairer. First, the tester 30a picks up the glasses in the work assembly cassette 40, which is moved by an automatic guided vehicle (AGV) (which is an automatic transport system), and then tests the glasses respectively. Based on the test, job result data are generated and stored. After the test, the cassette 40 moves to the repairer 30b by the AGV. The repairer 30b then repairs the glasses using the job result data from the previous tester 30a.[6]

Referring to Fig. 4 of the Lee reference, a tester 300a examines if any glasses stored in a cassette 650 have errors such as a short circuit or an open circuit on data lines and transmits the test result data to a file server 400. At this time, the test result data are stored as raw data. The raw data are coordinate data of defects, image data of defects, defect contents such as a short circuit or an open circuit, and the like. Furthermore, the tester 300a transmits summary data, which is processed from the result data of the tester, to a tester server 200a. For example, the summary data can be a number of defective glasses, etc.[7]

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[5] See Lee reference, col. 1, ln. 14-23

[6] See Lee reference, col. 1, ln. 24-41

[7] See Lee reference, col. 5, ln. 18-28

If the tester 300a finishes testing the glasses in the cassette 650, the host 100 controls the AGV 600 to transfer the cassette 650 to the repairer 300b. When the cassette 650 moves to the repairer 300b, the repairer 300b reads the raw data on the cassette 650 (specifically the glasses stored in the cassette) processed in the previous step from the file server 400. At this time, the repairer 300b searches the file server 400 on the key of the cassette ID and retrieves the test result data on the cassette from the file server 400.[8]

The repairer 300b utilizes the test result data on the cassette and repairs the glasses stored in the cassette. If the repairer 300b completes repairing, the file server stores the raw data (for instance, coordinate data of repair and contents of repair) and the summary data (for example, the number of repaired glasses) are transmitted to the repairer server 200b.[9]

However, there is no teaching or suggestion in the Lee reference of "system components having respective memories to store component-specific data that include spatial coordinates of respective positions of the system components ..., wherein the system components are configured to transmit the respective positions to the configuration unit; and wherein the configuration unit is configured to assign and transmit unique physical addresses on the communications channel to the system components whose respective positions were previously received by the configuration unit", as recited in claim 1.

Rather, as noted above, the Lee reference merely teaches that the tester 300a determines, e.g., coordinate data of defects of glass, for example. This data is then transmitted to the file

[8] See Lee reference, col. 5, ln. 37-45

[9] See Lee reference, col. 5, ln. 46-55

server 400, where the data is stored. However, there is no teaching or suggestion of any structure in the Lee reference (such as the system components recited in claim 1) that has a memory in which the spatial coordinates of that structure are stored. Nor is there, as a consequence, a teaching or suggestion in the Lee reference of any structure that transmits, as recited in claim 1, the spatial coordinates of that structure to any other structure, much less to a structure that is equivalent to the claimed configuration unit (which is, as recited in claim 1, configured to assign and transmit unique physical addresses to the system components whose respective positions were previously received by the configuration unit).

For at least these reasons, Applicants submit that independent claim 1 is patentable over the prior art made of record. The dependent claims 2-7 are patentable at least by virtue of their dependency from claim 1.

Independent claim 8 is directed to a system component for a distributed control system, wherein the system component includes a memory to store component-specific data representing spatial coordinates of a position of the system component. Therein, as recited, the system component is configured to transmit the position of the system component to a communications device via a communications channel, and the system component is further configured to receive a unique physical address assigned by the configuration unit via the communications channel.

Therefore, Applicants submit that patentability arguments analogous to those presented in connection with the patentability of claim 1 apply to independent claim 8 with equal force. Dependent claim 9 is patentable at least by virtue of its dependency from claim 8.

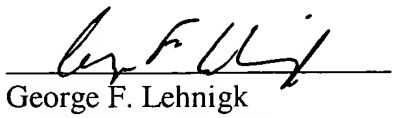
Independent claim 10 is directed to a method, which includes, among other steps, determining positions of respective system components of a distributed control system; storing the positions in respective memories of the system components; and transmitting the positions to a configuration unit.

Therefore, Applicants submit that patentability arguments analogous to those presented in connection with the patentability of claim 1 apply to independent claim 10 with equal force. Dependent claim 11 is patentable at least by virtue of its dependency from claim 10.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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